

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-272
Relating to Exemptions Under Section 27156
of the Vehicle Code

BAYTECH CORPORATION
NGV LINK

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the NGV LINK manufactured by Baytech Corporation, P. O. Box 1148, Los Altos, California 94023, has been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 1992 and older model-year General Motors vehicles operating on compressed natural gas and utilizing an Air Resources Board-certified conversion system.

This exemption shall not apply to any device, apparatus, or mechanism advertised, offered for sale or sold with, or installed on, a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different from those submitted by the device manufacturer.

Changes made to the design or operating conditions of the device, as exempted by the Air Resources Board, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this system using an identification other than that shown in this Executive Order or marketing of this device for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

This Executive Order does not constitute any opinion as to the effect that the use of this device may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF BAYTECH CORPORATION'S NGV LINK.

No claims of any kind, such as "Approved by the Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

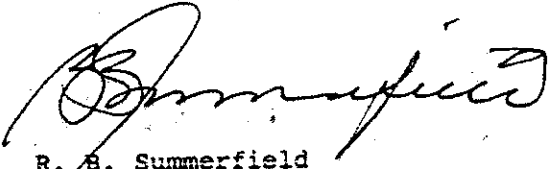
- Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

"43644, (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violations of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California, this 25th day of August, 1992.


R. B. Summerfield
Assistant Division Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF BAYTECH CORPORATION'S NGV LINK
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE
CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13, OF THE
CALIFORNIA CODE OF REGULATIONS

August 1992

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by

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State of California
Air Resources Board
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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

Baytech Corporation, of P. O. Box 1148, Los Altos, California 94023 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Baytech Corporation's NGV LINK. The NGV LINK is a computer chip designed for installation on 1992 and older model-year General Motors vehicles operating on compressed natural gas and utilizing an Air Resources Board certified conversion system.

Based on the results from emission tests performed at the U. S. EPA National Vehicle and Fuel Emission laboratory on a 1992 GMC Sierra pick-up truck, the staff concludes that Baytech Corporation's NGV LINK, will not adversely affect exhaust emissions from vehicles for which an exemption is requested.

The staff recommends that Baytech Corporation be granted an exemption as requested and that Executive Order D-272 be issued.

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I. INTRODUCTION

Baytech Corporation of P. O. Box 1148, Los Altos, California 94023 has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code for the Baytech Corporation's NGV LINK. The NGV LINK is designed for installation on 1992 and older model-year General Motors vehicles operating on compressed natural gas (CNG) and utilizing an Air Resources Board-certified conversion system.

Baytech Corporation has submitted data from testing a 1992 GMC Sierra pick-up truck equipped with a 5.7 liter engine at U. S. EPA National Vehicle Fuel Emission Laboratory, Ann Arbor, Michigan.

II. CONCLUSIONS

Based on test results conducted against the emission standards on a 1992 GMC Sierra pick-up truck, the staff concludes that Baytech Corporation's NGV LINK, will not adversely affect exhaust emissions from vehicles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that Baytech Corporation be granted an exemption for their NGV LINK, for 1992 and older model-year General Motors vehicles operating on CNG and utilizing an Air Resources Board certified conversion system. The staff also recommends that Executive Order D-272 be issued.

IV. DEVICE DESCRIPTION

The Baytech Corporation's NGV LINK, is designed for installation on 1992 and older model-year General Motors vehicles operating on CNG and utilizing an Air Resources Board certified conversion system. The NGV LINK is a computer chip which optimizes the emissions, performance and fuel economy of General Motors vehicle converted to operate on CNG.

The NGV LINK modifies various engine parameters to adjust for the use of CNG fuel. The NGV LINK also alleviates the trouble code problems associated with converting General Motors vehicles equipped with on-board diagnostic (OBD) systems to operate on CNG. This is accomplished by utilizing the original equipment manufacturer (OEM) algorithms and adjusting the parameters to compensate for the CNG fuel composition. These modifications to the OEM electronic control unit are considered proprietary.

The system operates in conjunction with the OEM computer controlled electronic port fuel injection or carburetor, and emission control systems already certified with the stock engine. The tune-up specifications on gasoline also remain the same.

V. EVALUATION AND DISCUSSION

A 1992 GMC Sierra Pick-up truck equipped with a 5.7 liter engine was used for the evaluation of the NGV LINK. The dynamometer inertia weight and loading was 5500 lbs and 15.4 HP respectively.

Emission tests conducted at U. S. EPA National Vehicle and Fuel Emissions Laboratory for Baytech Corporation consisted of one Cold-Start CVS-75

emission test in the modified (NGV LINK installed) configuration for the vehicle. The ARB did not perform tests to confirm the test results submitted by the applicant. A summary of the test results is shown below:

Exhaust Emissions Test Results
At U. S. EPA National Vehicle and Fuel Emissions Laboratory

Test Mode	Exhaust Emissions (gm/mi)		
	<u>NMHC</u>	<u>CO</u>	<u>NOx</u>
GMC Sierra	0.01	2.0	0.1
GMC Sierra (w/DF)	0.01	2.1	0.1
Standard	0.5	9.0	1.0

Results from the emission test conducted at U. S. EPA National Vehicle and Fuel Emission Laboratory show the vehicle emissions with the Baytech Corporation's NGV LINK installed are within the emission standards. Therefore, based on the test results, the staff concludes that the installation of the Baytech Corporation's NGV LINK will not have an adverse effect on exhaust emissions of 1992 and older model-year General Motors vehicles operating on compressed natural gas and utilizing an Air Resources Board certified conversion systems. Baytech Corporation submitted all the required information and fulfilled the requirements for exemption.